



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

CURRENT LITERATURE.

BOOK REVIEWS.

Plant breeding.

A THIRD EDITION of Professor Bailey's *Plant breeding*¹ has just been issued. The first edition was issued in 1895,² and since that time remarkable changes have taken place in our point of view. As the author remarks, "these years may be said to have marked a transition between two habits of thought in respect to the means of the evolution of plants, from the points of view held by Darwin and the older writers to those arising from definite experimental studies in species and varieties." The chief practical results to plant breeding have been the recognition that not all variations in plants are of equal importance, and the belief that the offspring of hybridization follow definite laws. And yet the author did not feel justified in recasting the lecture on "The philosophy of the crossing of plants, considered in reference to their improvement under cultivation," finding that it would largely be only a matter of rephrasing. The new matter is introduced in lecture IV, the old title "Borrowed opinions (extracts from representative European writings)" being replaced by "Recent opinions: being a résumé of the investigations of DeVries, Mendel, and others, and a statement of the current tendencies of American plant-breeding practice." The title is sufficiently explicit to indicate the contents, and a compact simple statement of these matters is a boon to the general reader. It is a matter of interest to note that a bibliographical reference in one of Professor Bailey's papers led DeVries to the discovery of Mendel's publication, an account of which he published in 1900. In this chapter IV DeVries himself has written a section on hybridization.

It is a satisfaction to see that Professor Bailey has not been swept off his feet by the swelling tide of Mendelism. The wild prophecies that the application of Mendel's law will reduce plant breeding to a science of mathematical precision find him waiting for proof. Perhaps a good statement of the author's attitude is his answer to the question as to what are the great things we have learned from these newer studies.

"(1) In the first place, we have been brought to a full stop in respect to our ways of thinking on these evolution subjects. (2) We are compelled to give up forever the taxonomic idea of species as a basis for studying the process of evolution. (3) The experimental method has finally been com-

¹ BAILEY, L. H., *Plant breeding, being five lectures upon the amelioration of domestic plants*. Third edition. pp. xiii + 334. New York: The Macmillan Company. 1904.

² See BOT. GAZ. 21: 175. 1896.

pletely launched and set under way. (4) We must study great numbers of individuals and employ statistical methods of comparison. (5) The doctrine of discontinuous evolution is now clearly before us. (6) We are beginning to find a pathway through the bewildering maze of hybridization."—J. M. C.

River plankton.

IN a *Bulletin* of the Illinois State Laboratory of Natural History,³ a bulky volume of something over five hundred pages, we have by far the most important contribution yet made to the subject of potamoplankton. There have been many extended series of observations on the plankton of lakes, but river plankton has received very little attention. This has been partly because of the greater richness of limnoplankton, partly because the problems of limnoplankton are simpler than those of potamoplankton, and perhaps of greater interest, and partly, doubtless, because the lakes are more important for the production of fish. The greater credit, perhaps, ought to be given for the attempt to throw light on the problems of river plankton by long continued systematic observations.

The work centered at Havana on the Illinois River, and collections were made, not only in the river, but in neighboring waters, including Spoon River, Quiver Lake, Dogfish Lake, Flag Lake, Thompson's Lake, and Phelps Lake. The conditions in the Illinois River are unusual because of the large amount of sewage that comes from Chicago and the other cities in its course. Spoon River is a typical prairie river with no artificial conditions. The lakes examined are all connected with the river at the time of high water, and some of them have a permanent connection through the year. Thus the work of investigation included a study of the Illinois River, of a river uncontaminated with sewage, and of several shallow bodies of water which were filled by overflow from the river and were stagnant for a greater or less part of the year. Something over a hundred pages are devoted to a somewhat detailed discussion of the geological and hydrographical features of the basin of the Illinois.

The remainder of the work is a discussion of the quantitative investigation of the plankton. The methods of collection worked out by Dr. Kofoid are somewhat different from those employed at other stations, and the author naturally considers them superior. It may be questioned, however, whether the methods used in the shallow silt-laden waters of the river could be used with advantage in a study of limnoplankton. The centrifuge was used to get the plankton into compact form for measurement, and this method seems to be the most practical that has yet been devised.

The study of plankton production was carried out with the most pains-

³ KOFOID, C. A., The plankton of the Illinois River, 1894-1899, with introductory notes upon the hydrography of the Illinois River and its basin. Part I. Quantitative investigations and general results. Bull. Ills. State Lab. Nat. Hist. vol. 6. 8vo. pp. xviii + 629. *pls.* 50. 1903.